

Evaluation of the Implementation Effect of Medical Service Price Reforms: A Case Study of Assisted Reproductive services in China

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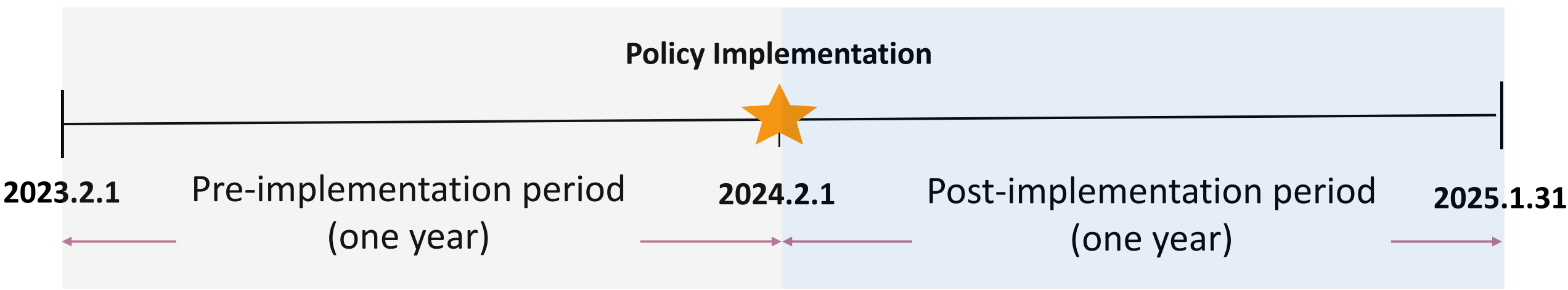
OBJECTIVES

- China is advancing medical service price reforms^[1], to address provincial disparities of items from previous regional management. The reform reorganizes items and establishes a unified national catalog. Focusing on assisted reproduction(AR)^[2], this study evaluates the policy's effects on item setup, price adjustments, service volume, expenditure, and patient burden to inform national promotion.

METHODS

Target data

- Using EHR data from Feb 2023 to Jan 2025 from 9 qualified hospitals^[3] in Inner Mongolia, pre-policy (Feb 2023-Jan 2024) and post-policy (Feb 2024-Jan 2025) periods were compared.



Reform Highlights

- The reform integrated 38 original AR items into 12 streamlined ones with price adjustments and expanded reimbursement 0 to 8 items^[4].

Study methods

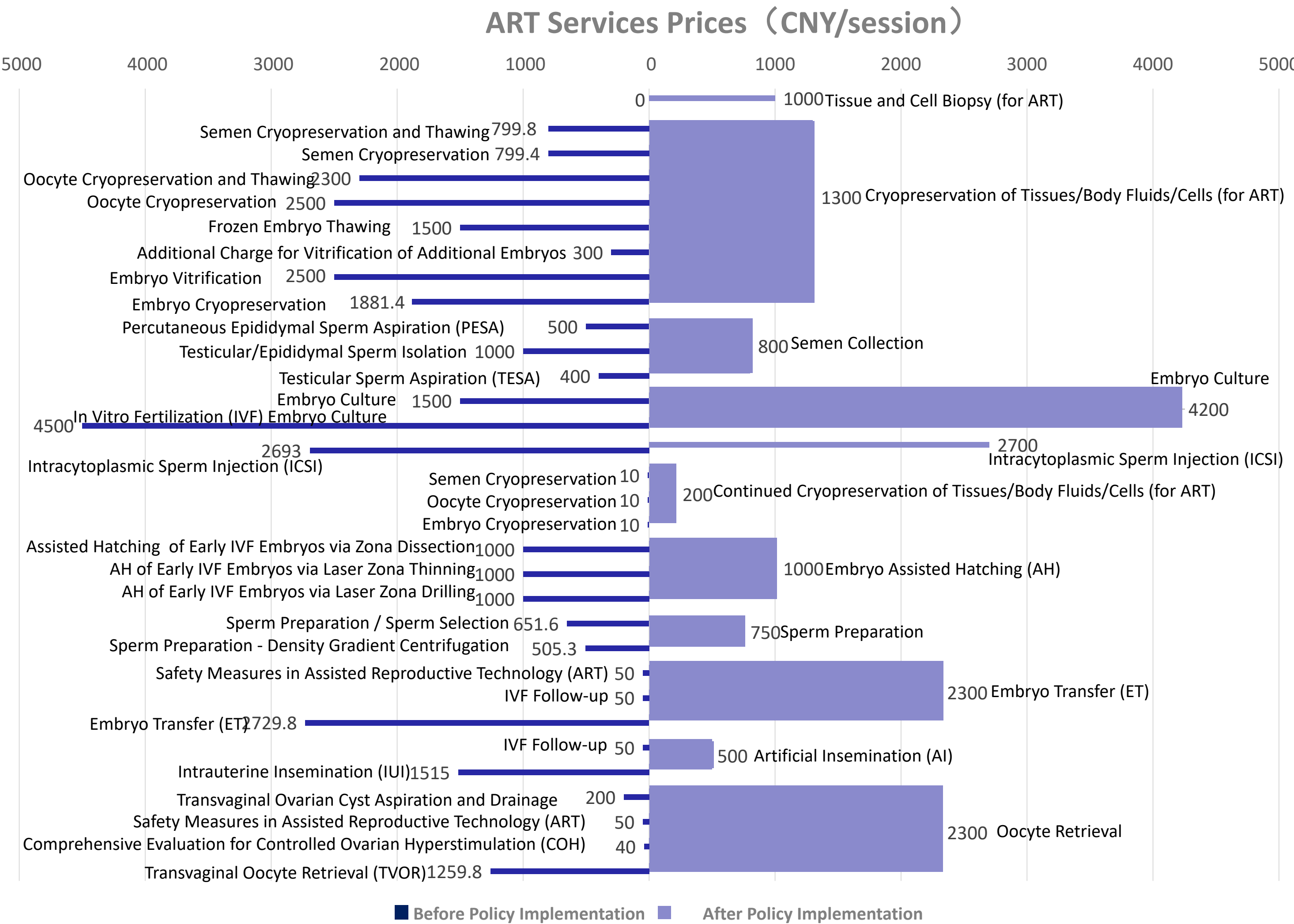
- Service volume and expenditure** : service volume and expenditure were summed.
- Price calculation** : weighted average prices ,using service volumes, were calculated pre-policy due to price variations.
- Patient burdens** : a standardized cost model was applied to analyze patient burdens, calculating the sum of weighted average prices for medical service items involved in each assisted reproductive technology ,including Intrauterine Insemination (IUI), In Vitro Fertilization (IVF), Intracytoplasmic Sperm Injection(ICSI) and Preimplantation Genetic Testing(PGT), with IVF/ICSI further divided by fresh/frozen embryos.

RESULTS

Prices adjustments

- As shown in Figure 1, price showed mixed trends, most decreased by 6.7% to 72.9%, for example, artificial insemination decreased by 67.7% to 500 CNY, while a few items, which reflect high technical labor value, increased by 0.3% to 34.0%, for example, sperm preparation increased by 34.0% to 750 CNY.

Figure 1. Price Adjustments of ART Services Before and After Policy Implementation



Note: ^aCNY indicates China yuan.^bPrices before the policy are weighted averages of the service volume across the entire autonomous region.cUnit adjustments:After policy implementation, "Cryopreservation" changed from "CNY/day" to "CNY/month", "Embryo Freezing" changed to "CNY/vial per embryo", "Biopsy" changed to "CNY per embryo (oocyte)".

Service volume changes

- As shown in Table 1, service volume for the four most closely monitored ART services in clinical practice, including Intrauterine insemination, oocyte retrieval, embryo transfer and cryopreservation, rose by 1,496 visits (7.5%) overall. Among them, the service volume of artificial insemination increased significantly by 1,093 visits, accounting for 56.3% of the total increase.

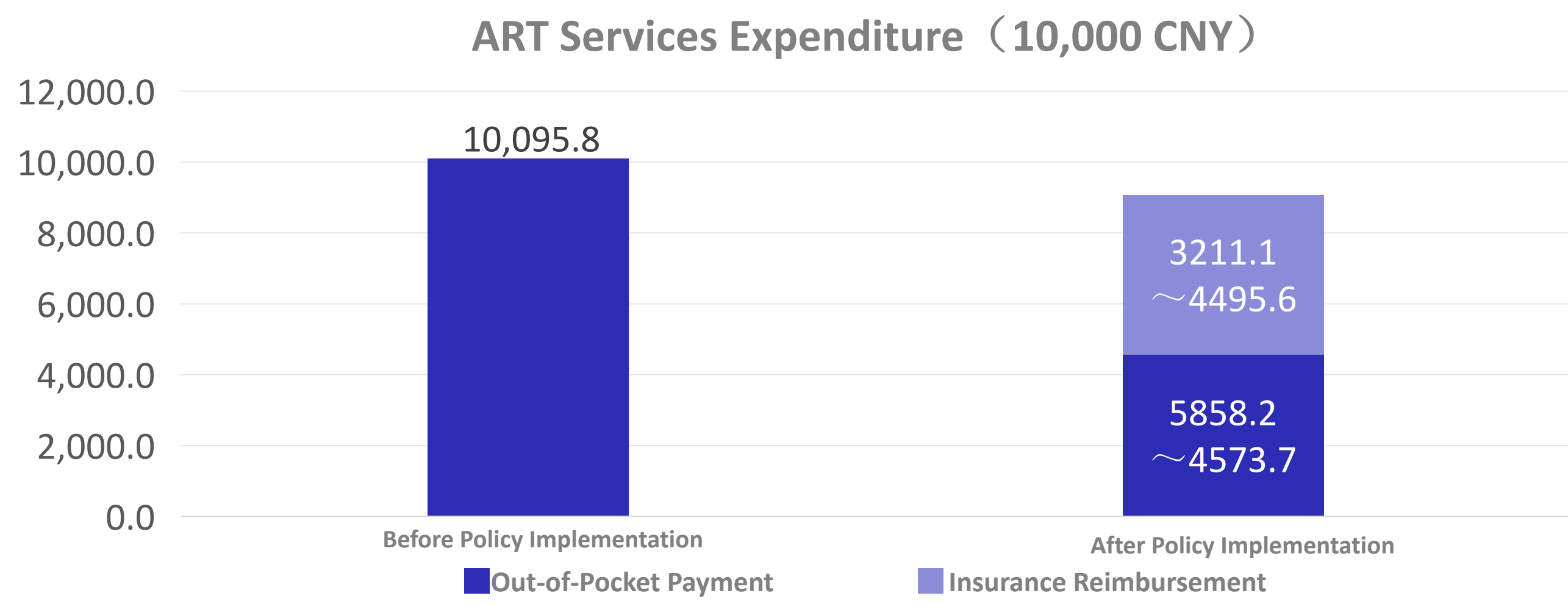
Table 1. Service Volume of Key ART Changes Before and After Policy Implementation

Type	Before Policy (n)	After Policy (n)	Change (n)	Change Rate
Total ART Services	20,027	21,523	1,496	7.5%
Intrauterine Insemination	1,940	3,033	1,093	56.3%
Oocyte Retrieval	5,137	4,826	-311	-6.1%
Embryo Transfer	6,581	6,694	113	1.7%
Cryopreservation	6,369	6,970	601	9.4%

Expenditure changes

- As shown in Figure 2, total expenditure decreased by 10.2% (equivalent to a reduction of 10.3 million CNY), which reduced patient out-of-pocket costs by 42.4 to 55.2 million CNY.

Figure 2. Expenditure Changes of ART Services Before and After Policy Implementation



Note: ^aCNY indicates China yuan.

Standardized costs changes

- As shown in Table 2, IUI decreased by 40.6% to 1,250 CNY; IVF (fresh embryo/frozen embryo) decreased by 5.5%/9.4% to 9,550 CNY/13,594 CNY; ICSI (fresh embryo/frozen embryo) decreased by 4.3%/7.9% to 12,250 CNY/16,294 CNY; PGT decreased by 2.2% to 18,294 CNY.

Table 2. Standardized Costs Changes Before and After Policy Implementation

ART Type	Before Policy (CNY)	After Policy (CNY)	Change (CNY)	Change Rate
IUI	2,105.4	1,250.0	-855.4	-40.6%
IVF (fresh embryo)	10,104.0	9,550.0	-554.0	-5.5%
IVF(frozen embryo)	15,004.0	13,594.0	-1,410.0	-9.4%
ICSI (fresh embryo)	12,797.0	12,250.0	-547.0	-4.3%
ICSI (frozen embryo)	17,697.0	16,294.0	-1,403.0	-7.9%
PGT ^b	18,697.0	18,294.0	-403.0	-2.2%

Note: ^aCNY indicates China yuan.^bThe standardized costs listed for PGT technologies do not include genetic testing fees. Since healthcare institutions in the Inner Mongolia Autonomous Region currently do not provide genetic testing services, all related tests are outsourced to professional genetic testing companies, which complete the tests and charge separately.

CONCLUSIONS

- After the policy implementation, the medical service items for assisted reproduction in Inner Mongolia achieved standardized management, with prices both increasing and decreasing. Meanwhile, the service volume of assisted reproduction visits has increased, the costs of assisted reproductive medical services for patients have decreased, and medical insurance reimbursement has further reduced the economic burden on patients.

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